In the claims:

Please amend claim 11 as follows:

1. (Original claim) An audio signal phase detection system for detecting signal phase reversals within an audio system comprising:

an audio signal source generating an audio signal having a first frequency component having a selected polarity that is marked by a second frequency component that is distinguishable from the first frequency component, the audio signal source being coupled to provide the audio signal to the audio system; and

a phase detector coupled to receive a representation of the audio signal from the audio system, the phase detector detecting the marking of the first frequency component by the second frequency component and providing an indication as to whether or not the first frequency component has the selected polarity at the occurrence of the mark.

2. (Original claim) An audio signal phase detection system according to claim 1, wherein the first frequency component is a lower frequency component and the second frequency component is a higher frequency component having a frequency higher than a frequency of the lower frequency component.

3. (Original claim) An audio signal phase detection system according to claim 1, wherein the first frequency component has a frequency in the range of 50 Hertz to 300 Hertz and the second frequency component has a frequency greater than or equal to 2 KHz.

4. (Original claim) An audio signal phase detection system according to claim 3, wherein the second frequency component is repeated not more than 150 times per second.

5. (Original claim) An audio signal phase detection system according to claim 3, wherein the second frequency component is repeated not more than 50 times per second.

6. (Original claim) An audio signal phase detection system according to claim 1, wherein the phase detector includes a light and wherein the phase detector provides an indication as to whether or not the first frequency component has the selected polarity at the occurrence of the mark by illuminating the light when the first frequency component has the selected polarity at the occurrence of the mark and not illuminating the light when the first frequency component does not have the selected polarity at the occurrence of the mark.

7. (Original claim) An audio signal phase detection system according to claim 1, wherein the phase detector includes first and second lights and wherein the phase detector provides an indication as to whether or not the first frequency component has the selected polarity at the occurrence of the mark by illuminating the first light when the first frequency component has the selected polarity at the occurrence of the mark and by illuminating the second light when the first frequency component has a polarity opposite the selected polarity at the occurrence of the mark.

8. (Original claim) An audio signal phase detection system according to claim 7, wherein the first and second lights are light emitting diodes and wherein the selected polarity is a positive polarity.

9. (Original claim) An audio signal phase detection system according to claim 1, wherein the audio signal source includes a recording medium having the audio signal recorded thereon and a player playing the audio signal recorded on the recording medium.

10. (Original claim) An audio signal phase detection system according to claim 1, wherein the audio signal source includes a compact disk recording medium having the audio signal recorded thereon and a compact disk player playing the audio signal recorded on the recording medium.

11. (Currently amended) An audio signal phase detection system according to claim 1, wherein the audio signal source includes an[[d]] active signal generator generating the audio signal while the phase detector determines whether or not the first frequency component has the selected polarity at the occurrence of the mark.

12. (Original claim) An audio signal phase detection system for detecting signal phase reversals within an audio system, the audio signal phase detection system comprising:

an audio signal source generating an audio signal having a first frequency component, a portion of the first frequency component having a selected polarity that is marked by a second frequency component that is distinguishable from the first frequency component, the audio signal source being coupled to provide the audio signal to the audio system; and

a phase detector coupled to receive a representation of the audio signal from the audio system, the phase detector detecting the marking of the first frequency component by the second frequency component and providing an indication as to whether or not the first frequency component has a selected polarity at the occurrence of the mark.

13. (Original claim) An audio signal phase detection system for detecting signal phase reversals within an audio system, the audio signal phase detection system comprising:

an audio signal source providing an audio test signal having a plurality of repetitive cycles of an audio signal, the audio test signal including a plurality of cycles of a lower frequency signal component having positive and negative polarity portions and with at least one of the polarity portions of a selected polarity being marked with a higher frequency signal component, the audio test signal being coupled to the audio system; and

a phase detector coupled to receive a representation of the audio test signal from the audio system, the phase detector detecting the higher frequency signal component and providing an indication as to whether or not the higher frequency signal component is coincident with the selected polarity of the lower frequency signal component.

14. (Original claim) An audio signal phase detection system for detecting signal phase reversals within an audio system, the audio signal phase detection system comprising:

an audio signal source including a recorded medium having an audio frequency test signal recorded thereon and a medium player reproducing the recorded audio frequency test signal, the audio frequency test signal including a lower frequency signal component having a portion thereof of a selected polarity marked with a higher frequency signal component, the audio frequency test signal being communicated to the audio system; and a phase detector coupled to receive a representation of the audio frequency test signal from the audio system, the phase detector detecting the marking of the selected polarity of the lower frequency signal component by the higher frequency signal component and providing an indication as to whether or not the selected polarity of the lower frequency signal component is marked by the higher frequency signal component.

15. (Original claim) An audio signal phase detection system for detecting signal phase reversals within an audio system comprising:

means for generating an audio signal having a first frequency component having a selected polarity that is marked by a second frequency component that is distinguishable from the first frequency component, the audio signal source being coupled to provide the audio signal to the audio system; and

a phase detector coupled to receive a representation of the audio signal from the audio system, the phase detector detecting the second frequency component and providing an indication as to whether or not the first frequency component has the selected polarity at the occurrence of the second frequency component.

16 (Original claim) An audio signal phase detection system for detecting signal phase reversals within an audio system, the audio signal phase detection system comprising:

an audio signal source generating an audio signal having a first, lower frequency signal component, a portion of the first, lower frequency signal component having a selected polarity that is marked by a second, higher frequency signal component having a repetition rate less than 150 times per second, the audio signal source being coupled to provide the audio signal to the audio system; and

a phase detector coupled to receive a representation of the audio signal from the audio system, the phase detector detecting the occurrence of the higher frequency signal component mark and providing an indication as to whether or not the first, lower frequency component has the selected polarity at the occurrence of the higher frequency signal component.

17. (Original claim) An audio signal phase detection system for detecting signal phase reversals within an audio system having a recorded medium player, the audio signal phase detection system comprising:

a recorded medium having an audio frequency test signal recorded thereon, the audio frequency test signal including a lower frequency signal component having a portion thereof of a selected polarity marked with a higher frequency signal component; and

a phase detector coupled to receive a representation of the audio frequency test signal from the audio system, the received audio frequency test signal being generated by the audio system in response to the audio frequency test signal recorded on the recorded medium, the phase detector detecting the marking of the selected polarity of the lower frequency signal component by the higher frequency signal component and providing an indication as to whether or not the selected polarity of the lower frequency signal component is marked by the higher frequency signal component.

18. (Original claim) An audio signal phase detection system for detecting signal phase reversals within an audio system, the audio signal phase detection system comprising:

means for providing an audio frequency test signal having a higher frequency signal component and a lower frequency signal component, with the higher frequency signal component occurring while the lower frequency signal component has a selected polarity, the audio frequency test signal being coupled to the audio system; and

means for phase testing an audio frequency test signal coupled to receive a representation of the audio test frequency signal from the audio system, the means for testing providing an indication as to whether or not the higher frequency signal component occurs during the selected polarity of the lower frequency signal component.

19. (Original claim) A method of detecting signal phase reversals within an audio system, the method comprising the acts of:

providing to the audio system an audio frequency test signal having a higher frequency signal component and a lower frequency signal component, with the higher frequency signal component occurring while the lower frequency signal component has a selected polarity;

receiving a representation of the audio frequency test signal from the audio system;

phase testing the received representation of the audio frequency test signal; and

providing an indication as to whether or not the higher frequency signal component occurs during the selected polarity of the lower frequency signal component in the received representation of the audio frequency test signal.

20. (Original claim) A method of detecting signal phase reversals within an audio system using a signal source and a phase detector, the method comprising the acts of:

generating an audio frequency test signal with the signal source, the audio frequency test signal having a higher frequency signal component and a lower frequency signal component, with the higher frequency signal component occurring while the lower frequency signal component has a selected polarity;

communicating the audio frequency test signal to the audio system;

receiving a representation of the audio frequency test signal from the audio system;

phase testing the received representation of the audio frequency test signal; and

providing an indication as to whether or not the received representation of the audio frequency test signal has the higher frequency signal component and the lower frequency signal component with the higher frequency signal component occurring during the selected polarity of the lower frequency signal component

21. (Original claim) A phase detector detecting whether or not a received representation of an audio frequency signal has a marker at a selected polarity of the audio frequency signal, the phase detector comprising:

a first filter separating a first component of the audio frequency signal from the audio frequency signal;

a second filter separating the marker from the audio frequency signal to generate a second component of the audio frequency signal;

a sampling circuit sampling the first component of the audio frequency signal in response to the second component of the audio frequency signal; and

an indicator indicating whether or not the sample of the first component of the audio frequency signal has the selected polarity.

22. (Original claim) A phase detector detecting whether or not a received representation of an audio frequency test signal having first and second frequency components has an occurrence of the second frequency component coincident in time with an occurrence of the first frequency component having a selected polarity, the phase detector comprising:

a first filter separating the first frequency component from the audio frequency test signal;

a second filter separating the second frequency component from the audio frequency test signal;

a coincidence circuit determining whether or not the second frequency component of the audio frequency test signal is received coincident in time with an occurrence of the first frequency component having the selected polarity; and

an indicator circuit that is responsive to the coincidence circuit, the indicator circuit indicating whether or not the second frequency component of the audio frequency test signal is received coincident in time with an occurrence of the first frequency component having the selected polarity.

23. (Original claim) A signal phase detector comprising:

a signal separator separating a received representation of an audio frequency test signal into a higher frequency signal component and a lower frequency signal component;

a detector that is responsive to the higher and lower frequency components, the detector determining whether or not the higher frequency signal component of the received representation of the audio frequency test signal occurs while the lower frequency signal component of the received audio frequency test signal has a selected polarity; and

an indicator that is coupled to the detector, the indicator providing a human perceptible indication of whether or not the higher frequency signal component of the received audio frequency test signal occurs while the lower frequency signal component of the audio frequency test signal has the selected polarity.

24. (Original claim) A signal phase detector according to claim 23, wherein the signal separator includes a high pass filter circuit and a low pass filter circuit, and where in the detector includes a comparator comparing the lower frequency signal component to a threshold signal in response to an occurrence of the higher frequency signal component.

25. (Original claim) A phase detector detecting whether or not a received representation of an audio frequency signal has a marker at a selected polarity of the audio frequency signal, the phase detector comprising:

means for separating a first component of the audio frequency signal from the audio frequency test signal;

means for separating the marker from the audio frequency signal to generate a second component of the audio frequency signal;

means for sampling the first component of the audio frequency signal in response to the second component of the audio frequency signal; and

means responsive to the means for sampling for indicating whether or not the sample of the first component of the audio frequency signal has the selected polarity.

26. (Original claim) A phase detector for detecting whether or not a received representation of an audio frequency signal having first and second frequency components has an occurrence of the second frequency component coincident in time with an occurrence of the first frequency component having a selected polarity, the phase detector comprising:

a first filter separating the first frequency component from the audio frequency signal;

a second filter separating the second frequency component from the audio frequency signal;

means for determining whether or not the second frequency component of the audio frequency test signal is received coincident in time with an occurrence of the first frequency component having the selected polarity; and

an indicator circuit that is responsive to the means for determining, the indicator circuit including means for indicating whether or not the second frequency component of the audio frequency signal is received coincident in time with an occurrence of the first frequency component having the selected polarity.

27. (Original claim) A signal phase detector for determining whether a phase reversal has occurred between an audio frequency test signal having occurrences of a higher frequency signal component while a lower frequency signal component has a selected polarity and a received representation of the audio frequency test signal, the phase detector comprising:

means for separating a received representation of the audio frequency test signal into a higher frequency signal component and a lower frequency signal component;

a detector that is responsive to the higher and lower frequency signal components, the detector determining whether or not the higher frequency signal component of the received audio frequency test signal occurs while the lower frequency signal component of the audio frequency test signal has the selected polarity; and

an indicator that is responsive to the detector, the indicator providing a human perceptible indication of whether or not the higher frequency signal component of the received audio frequency test signal occurs while the lower frequency signal component of the audio frequency test signal has the selected polarity.

28. (Original claim) A signal phase detector according to claim 27, wherein the means for separating includes a high pass filter circuit and a low pass filter circuit, and wherein the detector includes means for comparing the lower frequency signal component to a threshold signal in response to an occurrence of the higher frequency signal component.

29. (Original claim) A method of determining whether or not a received representation of an audio frequency signal has a marker at a selected polarity of the audio frequency signal, the method comprising the acts of:

separating a first component of the audio frequency signal from the audio frequency test signal;

separating the marker from the audio frequency signal to generate a second component of the audio frequency signal;

sampling the first component of the audio frequency signal in response to the second component of the audio frequency signal to generate a signal sample of the first component of the audio frequency signal; and

indicating whether or not the signal sample of the first component of the audio frequency signal has the selected polarity.

30. (Original claim) A process of detecting whether or not a received representation of an audio frequency signal having first and second components has an occurrence of the second component coincident in time with an occurrence of the first component having a selected polarity, the process comprising the acts of:

separating the first component from the audio frequency test signal;

separating the second component from the audio frequency test signal;

determining whether or not the separated second component of the audio frequency test signal is received coincident in time with an occurrence of the separated first component having the selected polarity; and

indicating whether or not the second component of the audio frequency test signal is received coincident in time with an occurrence of the first component having the selected polarity.

31. (Original claim) A method of detecting a phase of a received representation of an audio frequency test signal comprising the acts of:

separating the received representation of an audio frequency test signal into a higher frequency signal component and a lower frequency signal component;

determining from the higher and lower frequency signal components whether or not the higher frequency signal component of the received audio frequency test signal occurs while the lower frequency component of the audio frequency test signal has a selected polarity; and

providing a human perceptible indication of whether or not the higher frequency signal component of the received audio frequency test signal occurs while the lower frequency component of the audio frequency test signal has the selected polarity.

32. (Original claim) A method of detecting a phase of a received representation of an audio frequency test signal according to claim 31, wherein the separating act includes filtering the received representation of an audio frequency test signal with a high pass filter circuit and a low pass filter circuit, and wherein the determining act includes comparing the lower frequency signal component to a threshold signal in response to an occurrence of the higher frequency signal component.

33. (Original claim) A method of generating an audio frequency test signal for testing an audio system comprising the acts of:

generating a lower frequency signal having positive and negative polarity portions;
generating a higher frequency signal; and

adding a segment of the higher frequency signal having a duration that is less than one half cycle of the lower frequency signal to the lower frequency signal while the lower frequency signal has a selected positive or negative polarity.

34. (Previously presented) A method of generating an audio frequency test signal for testing an audio system comprising the acts of:

generating a lower frequency signal having positive and negative polarity portions;
generating a higher frequency signal;

generating an intermediate frequency signal having a frequency between the frequencies of the higher and lower frequency signals, the frequency of the higher frequency signal being an integer multiple of the frequency of the intermediate frequency signal;

modulating the higher frequency signal with a half cycle of the intermediate frequency signal to produce a modulated higher frequency signal; and

adding the modulated higher frequency signal to the lower frequency signal starting at a selected phase position of the lower frequency signal.

35. (Original claim) A method of generating an audio frequency test signal for testing an audio system comprising the act of:

generating a sequence of digital values with a programmable digital data processor, the sequence of values representing the audio frequency test signal at a sequence of substantially equally spaced phase positions, the audio frequency test signal being a composite signal having a plurality of cycles of a lower frequency signal having positive and negative polarity portions with a selected plurality of the cycles having a portion of the cycle starting at a predetermined phase position being the sum of a lower frequency signal component and a higher frequency signal component, the selected plurality of cycles being less than half of the cycles of the audio frequency test signal.

36. (Original claim) A method of generating an audio frequency test signal for testing an audio system according to claim 35, further comprising the act of:

converting the sequence of digital values to an analog audio frequency test signal using a digital to analog converter.

37. (Original claim) A method of generating an audio frequency test signal for testing an audio system according to claim 35, further comprising the acts of:

converting the sequence of digital values to an analog audio frequency electrical test signal using a digital to analog converter; and

converting the analog audio frequency electrical test signal to an acoustic audio frequency test signal using an audio speaker that is coupled to receive the analog audio frequency electrical test signal.

38. (Original claim) A signal source for an audio frequency test signal comprising:

a programmable digital data processor generating a sequence of digital values in response to a program, the sequence of digital values defining sequential values of the audio frequency test signal, the audio frequency test signal having a plurality of cycles with each cycle including a plurality of cycles of a lower frequency signal with one of the cycles of the lower frequency signal having a portion of the cycle marked by a higher frequency signal starting at a selected phase position of the lower frequency signal.

39. (Original claim) A signal source for an audio frequency test signal according to claim 38, further comprising:

a digital to analog converter coupled to receive the audio frequency test signal from the programmable digital data processor and convert the audio frequency test signal to an analog audio frequency test signal.

40. (Original claim) A signal source for an audio frequency test signal according to claim 38, further comprising:

a digital to analog converter coupled to receive the audio frequency test signal from the programmable digital data processor and convert the audio frequency test signal to an analog audio frequency test signal; and

an audio speaker coupled to receive the analog audio frequency test signal from the digital to analog converter, the audio speaker generating an acoustic audio frequency test signal in response to the analog audio frequency test signal received from the digital to analog converter.

41. (Original claim) A signal source for an audio frequency test signal comprising:

a switch having an open position and a closed position and having first and second terminals, the first terminal being coupled to receive electrical power from a source of electrical power, the switch passing power from the first terminal to the second terminal when the switch is closed and blocking power from the second terminal when the switch is open;

means coupled to the second terminal of the switch for generating a sequence of digital values in response to a program when the switch is closed, the sequence of digital values defining a sequence of values of the audio frequency test signal, the audio frequency test signal having a plurality of cycles with each cycle including a plurality of cycles of a lower frequency signal with one of the cycles of the lower frequency signal having a portion of the cycle marked by a higher frequency signal starting at a selected phase position of the lower frequency signal.

42. (Original claim) A signal source for an audio frequency test signal according to claim 41, further comprising:

a digital to analog converter coupled to receive the audio frequency test signal from the means for generating, the digital to analog converter converting the audio frequency test signal to an analog audio frequency test signal.

43. (Original claim) A signal source for an audio frequency test signal according to claim 41, further comprising:

means for converting the audio frequency test signal to an analog audio frequency test signal; and

means for generating an acoustic audio frequency test signal in response to the analog audio frequency test signal.

Respectfully submitted:

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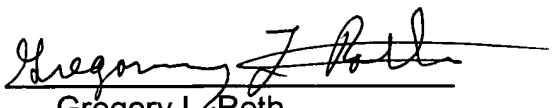
By 
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